



Examples of hand-held colorimetry technologies are (from left) the Chemetrics' VVR Photometer, LaMotte's Smart-2, and Orbeco-Hellige's Analyst 975MP.

(Photos courtesy of the companies.)

Vendors Invited

AMS Center To Start Testing Water Technologies That Detect Cyanide

Nine vendor companies have expressed interest in participating in a verification test of technologies that can detect cyanide in water. The test will be conducted by the Advanced Monitoring Systems (AMS) Center, which is managed by Battelle in partnership with the U.S. EPA's Environmental Technology Verification (ETV) Program.

The free cyanide ion (CN^-) is a cellular toxin that at high doses inhibits cellular respiration and, in some cases, can result in death. Cyanide is present in various forms in water. The most toxic forms are aqueous hydrogen cyanide, sodium cyanide, potassium cyanide, and other ionic complexes where free cyanide can be liberated by weak acids such as

water or acetic acid. Because of the toxicity of free cyanide to humans, the EPA has set 0.2 milligrams per liter (mg/L) as the maximum concentration of cyanide that can be present in drinking water.

Two types of technologies that detect the presence of free cyanide in water will be tested:

- ◆ **The colorimeters test kits** include reagents that, when added to a water sample, react with the available cyanide ion to form a colored solution. A sample vial containing this solution is inserted into a hand-held colorimeter that measures the intensity of the color in the sample solution and reports the cyanide concentration in the water.

- ◆ **The ion selective electrodes** function as a sensor. In most cases, the sensor can be inserted into a water sample, prompting a data readout device to report the concentration of free cyanide.

The verification of portable water analyzers/test kits that can detect cyanide in water will be conducted to quantify various performance parameters of these technologies, such as precision, accuracy, and detection limits. A variety of quality control, performance evaluation, and drinking water samples will be analyzed to assess the capabilities of the technologies relative to an accepted reference method.

The AMS Center is developing the verification test/quality assurance plan in November, expects to begin the verification test in

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The AMS Center is part of the U.S. Environmental Protection Agency's Environmental Technology Verification Program. ETV was established to accelerate the development and commercialization of improved environmental technologies through third-party verification testing and reporting of the technologies' performance. The ETV process provides purchasers and permittees with an independent assessment of the technology they are buying or permitting and facilitates multi-state acceptance. For further information, contact Helen Latham at Battelle, 505 King Ave., Columbus, Ohio 43201-2693; Phone 614-424-4062; Fax 614-424-5601; E-mail lathamh@battelle.org.

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December, and plans to have final verification test results in March 2003. To submit a technology or obtain additional information, contact Ryan James at Battelle, 614-424-7954 or jamesr@battelle.org.

Tests Underway or Planned

Ammonia continuous emission monitors (CEMs). Several vendors are expected to participate in a verification test of technologies that detect ammonia “slip” emissions. There will be two types of tests, the first at a coal-fired power plant and the second test at a natural gas-fired plant. The Electric Power Research Institute (EPRI) is collaborating with Battelle on the test, which will be conducted in March and April. Contact Ken Cowen, 614-424-5547 or cowenk@battelle.org.

Upcoming Events

November

10-14 2002 Water Quality Technology Conference & Exhibition, Seattle, WA

13-16 Water Environment Federation's National TMDL Science and Policy Conference, Phoenix, AZ

December

3-5 SERDP/ESTCP 2002 Partners in Environmental Technology Technical Symposium & Workshop, Washington, DC

January 2003

30-31 ETV Advanced Monitoring Systems Air Stakeholder Committee

ETV Program Update Through FY 2002

- ◆ **194** technology verifications
- ◆ **129** vendors await verification testing
- ◆ **143** applications pending
- ◆ **1,229** stakeholders serve in 18 ETV groups
- ◆ **Increasing** cost share by participating vendors, collaborators
- ◆ **Growing** international interest—inquiries/collaborations with India, Japan, Thailand, Philippines, Canada
- ◆ **New role** for ETV in Homeland Security technology verifications

Mercury CEMs. Five mercury CEMs were tested in a Phase 2 verification test during August and September at the U.S. Department of Energy's Toxic Substances Control Act Incinerator (TSCAI) at Oak Ridge (see *The Monitor*, July-August 2002). Data are being analyzed and the data report is being prepared. Contact Tom Kelly, 614-424-3495 or kellyt@battelle.org.

Multi-parameter water probes. Two vendors participated in a verification test conducted by the AMS Center in collaboration with the National Oceanic and Atmospheric Administration's (NOAA) Center for Coastal Environmental Health and Bio-molecular Research in Charleston, SC. The probes were tested in both salt and fresh water bodies. **Contact:** Jeff Myers, 614-424-7705 or myersjd@battelle.org.

Portable arsenic water analyzers. A second round of testing is being planned for vendors of portable arsenic water analyzers. For information about the upcoming test, contact: Patricia White, 781-952-5279 or whitepj@battelle.org.

Portable multi-gas emission analyzers. One vendor's technology has completed verification testing. The test measured the instrument's capabilities to detect NO/NO₂, SO₂, CO, and O₂ in combustion emissions. The final report is currently being reviewed. A verification test of additional technologies is being planned. Vendors interested in submitting technologies for verification should contact Tom Kelly (see above).

meeting, Riverside, CA

January/February 2003 (Dates to be announced) Environment & Energy Technology Conference, New England Governors Conference, Inc.

February 2003

20-21 Southwest FOCUS Conference: Water Supply and Emerging Contaminants, Phoenix, AZ

March 2003

9-14 PITTCON 2003, Orlando, FL

26-27 ETV Advanced Monitoring Systems Water Stakeholder Committee meeting, St. Petersburg, FL